

THINGS TO CONSIDER:

● TIME OF DAY

The best time of day for sampling is considered to be between 10:00am and 2:00pm. The sampling time should be as close to 12:00 noon as possible to get typical temperature readings.



● WEATHER

Safety first. If for any reason the weather makes it unsafe to sample, let the volunteer coordinator know that you'll sample on the alternate date. Also, **don't sample if more than 25 mm (1 inch) of rain has fallen in the past 24 hours.** This will affect the reliability of the water samples. If more than this amount of rain has fallen, let the volunteer coordinator know you will collect samples on the alternate date. If you do take samples after a heavy rain, make a note of this on your record sheet.

● CONTAMINATION

Some of the nutrients analyzed by the lab are present in very small quantities. As a result, the samples are very sensitive to contamination. Make sure the sampler and sample bottles don't come into contact with things like oil, sunscreen or cigarette ash.

● SEDIMENT

Secchi depth readings and some lab tests can be influenced by sediment in the lake water. Try to avoid stirring up sediment by setting your anchor gently (or tying up to the buoy) and taking water samples from the opposite side of the boat from where you take Secchi and depth readings.

FOR MORE INFORMATION:

See the Lake Monitoring Program webpage on the County website at www.county.kings.ns.ca

Or contact Ben Sivak, Program Coordinator:
by phone at **902-690-6102** or by email at bsivak@county.kings.ns.ca



LAKE MONITORING
PROGRAM



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LAKE MONITORING PROGRAM

2009

Water Sampling
Handbook



Taking water samples sounds pretty simple, doesn't it?

The volunteer paddles out in the lake, scoops up a bottle of water and turns it in. However, for the samples to be consistent and reliable, a set procedure must be followed time after time. Each month volunteers collect two composite samples. A composite sample is made up of water from the top and middle of the lake. The following steps explain how to take composite water samples for the Lake Monitoring Program.

1 CHECK FOR SUPPLIES

Along with a boat and the required safe boating supplies, a volunteer needs the following sampling equipment:

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|--|--|
| <input checked="" type="checkbox"/> Cooler | <input checked="" type="checkbox"/> Record Sheets |
| <input checked="" type="checkbox"/> Thermometer | <input checked="" type="checkbox"/> Sample Bottles |
| <input checked="" type="checkbox"/> Water Sampler | <input checked="" type="checkbox"/> Bottle Labels |
| <input checked="" type="checkbox"/> Tape Measure | <input checked="" type="checkbox"/> Secchi Disk |
| <input checked="" type="checkbox"/> Second person for safety | |

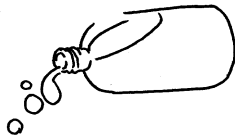
2 FIND SAMPLING STATION

Marked by a buoy, this should be the deepest part of the lake. Measure the depth and record it on your record sheet.



3 RINSE SAMPLING EQUIPMENT

Rinse 2 sample bottles and their caps, as well as the water sampler. Collect the rinse water from about 0.25m deep on one side of the boat and rinse the bottle and cap on the other side. Rinse the equipment 3 times.



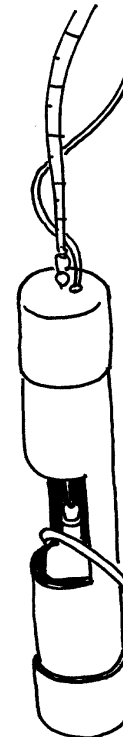
4 MEASURE SECCHI DEPTH

Measure the Secchi depth. Remove sunglasses for this step, as they may influence results. Attach the Secchi disk to your tape measure and lower it into the water on the boat's shaded side. Remember to always tie equipment to the boat to prevent loss. Record the depth when you can no longer see the disk. Retrieve the disk, recording the depth when you can see it again. The average of the two is the Secchi depth.



5 SAMPLE TOP OF THE LAKE

Take a water sample from the other side of the boat. Put a rinsed bottle in the water sampler and lower the sampler until it is 0.25m deep (Make sure it's tied to the boat first!). Pull the cord to release the plug from the bottle. Retrieve the sample. Pour half the collected sample into the other sample bottle.



6 SAMPLE MIDDLE OF THE LAKE

Put one of the half-full bottles back into the sampler and take another sample to fill the bottle. This time, take the sample from 2 times the recorded Secchi depth or 1m from the bottom of the lake (whichever is farther from the bottom).

7 LABEL FIRST COMPOSITE SAMPLE

You now have one composite sample. Label the bottle, recording the lake name, sample depths, your name, and the date.

8 SAMPLE MIDDLE OF THE LAKE AGAIN

Repeat step 6 (fill the other sample bottle with a water sample from the appropriate depth).

9 LABEL SECOND COMPOSITE SAMPLE

This is the second composite sample. Label the second bottle, recording the lake name, sample depths, your name, and the date.

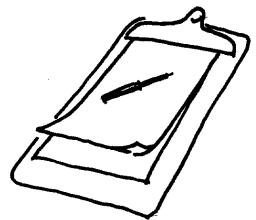


10 TAKE TEMPERATURE READINGS

You'll need to measure the air temperature and water temperature at 0.25 metres deep and 1 metre from the bottom. Make sure you leave the thermometer enough time to get an accurate reading.

11 FILL OUT RECORD SHEET

Fill out the rest of the record sheet, filling in data like date and time, precipitation, cloud cover, and general observations like wildlife sightings.



12 KEEP SAMPLES COOL

Store the samples in a cool dark place (preferably a cooler with freezer packs, not ice!), until a municipal employee picks them up.

